TROITSKIY, V.

People with searching minds; how to make improvements on the "Moskva-2" camera. Sov.foto 17 no.2:59-63 F '57. (MLRA 10:2)
(Cameras)

ABELE, L., inzh.; TROITSKIY, V., inzh.

Office of technological innovations in commercial aeronautics.
Grazhd. av. 20 no.3:27 Mr '63. (MIRA 16:4)

(Aeronautics, Commercial—Technological innovations)

TROITSKIY, V.

Regulating the planning and calculation of costs at grain processing enterprises. Muk.-elev. prom. 29 no.6:7-8 Je '63. (MIRA 16:7)

1. Nachal'nik planovogo otdela Irkutskogo upravleniya khleboproduktov.
(Grain trade--Costs)

[illegible]

"Hydrological Division of the USSR into Districts", Trudy Kom. po yest.-istorich. rayonirovaniyu SSSR (Proceedings of the Committee for the Natural-historical Division of the USS R into Districts) Vol II, No 3, Moscow-Leningrad, 1948, 112 pages (Academy of Science USSR, SOPS)

SO: U-3039, 11 Mar 1953

TROITSKII, V.A.

TROITSKII, V.A. Tipy rechnoe seti Evropeiskoi chasti SSSR. (Voprosy geografii. Sb. sed'moi, 1948. p. 37-65.)

DLC: G23.V6

SO: LC, Soviet Geography, Part I, 1951, Uncl.

TROITSKIY, V.A.

More about the traces of V.A.Rusanov's expedition in the "Hercules." Let. Sev. 3:283-285 '62. (MIRA 15:8)
(Arctic regions--Russian exploration)

TA 242T61

TROITSKIY, V. A.

USSR/Mathematics - Automatics Jan/Feb 53

"Canonical Transformations of Equations of the Theory of Automatic Regulation," V. A. Troitskiy, Leningrad

"Priklad Matemat i Mekhan" Vol 17, No 1, pp 49-60

Generalizes transformations by A. I. Lur'ye (ibid., 12, 5 (1948); "Some Nonlinear Problems of the Theory of Automatic Regulation" 1951) to cases of regulated systems with several regulating members. Received 16 Oct 52.

242T61

~~TROITSKII, V. A.~~ TROITSKIY, V. A.

~~TROITSKII, V. A.~~

2

Troickii, V. A. On the behavior of dynamical systems and systems of automatic regulation having several regulating organs near to the boundary of a region of stability. Akad. Nauk SSSR. Prikl. Mat. Meh. 17, 673–684 (1953). (Russian)

It was shown by N. N. Bautin [Behavior of dynamical systems near the boundary of their region of stability, Gostehizdat, Moscow, 1949] that the question described in the title of his paper was reducible to the investigation of the critical systems of Lyapunov [Problème générale de la stabilité du mouvement. Princeton, 1947; these Rev 9, 34], where there is either a single zero characteristic root or else one pair of pure complex such roots. Everything then depends according to Lyapunov upon the parity of the lowest terms of a certain power series and upon the sign of a certain number g. A similar result was obtained for automatic control systems with a single regulating element by A. I. Lur'e [Akad. Nauk SSSR. Prikl. Mat. Meh. 14, 371–382 (1950); Some nonlinear problems in the theory of automatic controls. Gostehizdat, Moscow-Leningrad, 1951; these Rev 12, 181; 15, 707]. This is now extended to automatic control systems with several regulating organs. Explicit expressions are actually given for the number g. *S. Lefschetz.*

Leningrad Polytech Inst

TROITSKIY, V.A.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 577
AUTHOR TROJZKIJ V.A.
TITLE Permanent oscillations in control circuits with two motor operators of constant velocity.
PERIODICAL Priklad.Mat.Mech. 20, 627-638 (1956)
reviewed 2/1957

Let the control circuit be described by the system

$$(1)\quad \begin{cases} \dot{x}_k = \sum\limits_{\alpha=1}^{n} b_{k\alpha} x_\alpha + h_{k_1} f_1(\sigma_1) + h_{k_2} f_2(\sigma_2) & (k=1,2,\dots n) \\ \sigma_1 = \sum\limits_{\alpha=1}^{n} j_{1\alpha} x_\alpha \quad ; \quad \sigma_2 = \sum\limits_{\alpha=1}^{n} j_{2\alpha} x_\alpha \end{cases}$$

or by

$$(2)\quad \begin{cases} \dot{x}_k = \sum b_{k\alpha} x_\alpha + n_{k_1} \xi_1 + n_{k_2} \xi_2 & (k=1,\dots,n) \\ \dot{\xi}_1 = f_1(\sigma_1) \qquad \sigma_1 = \sum\limits_{\alpha=1}^{n} j_{1\alpha} x_\alpha + r_{11} \xi_1 + r_{12} \xi_2 \\ \dot{\xi}_2 = f_2(\sigma_2) \qquad \sigma_2 = \sum\limits_{\alpha=1}^{n} j_{2\alpha} x_\alpha + r_{21} \xi_1 + r_{22} \xi_2 \ . \end{cases}$$

TROITSKIY, V. A.;

"On the Problem of Self-Excited Oscillations in Automatic Feedback Control Systems with Two Constant Speed Servomotors," Prikladnaya Matematika i Mekhanika, Col 100, No 5, Sep/Oct 56, pp 627-638.

The author describes an exact solution method for determining the self-excited oscillations in automatic feedback control systems equipped with twin regulators, having two "go-stop" servomotors, for cases when multiples are controlled in the roots of the equations describing the linear parts of the system. (Leningrad Polytechnic Institute)

124-58-9-10323

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 132 (USSR)

AUTHOR: Troitskiy, V. A.

TITLE: On the Calculation of the Free Vibrations of Three-dimensional Beam Systems by Means of the Method of Dynamic Rigidities (O raschete svobodnykh kolebaniy prostranstvennykh sterzhnevykh sistem metodom dinamicheskikh zhestkostey)

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1957, Nr 5, pp 3-7

ABSTRACT: The method is based on the segmentation of the system into separate elemental units. Formulas are given for the transition from the matrix of the dynamic rigidities of the individual elemental units to the matrix of the dynamic rigidities of the system as a whole both for sequential and for parallel connection. Any given three-dimensional system of beams is considered as an aggregate of beams connected in sequence and in parallel, and the matrix of the dynamic rigidities of the system is constructed according to the abovementioned formulas. The condition of equality to zero of the determinant of the matrix yields the values of the free vibratory frequencies of the

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124-58-9-10323

On the Calculation of the Free Vibrations of Three-dimensional Beam (cont.)

system. The author notes that it is not practicable to express the dynamic rigidity of the system in explicit form and recommends that it be evaluated separately for each value of the frequency.

M. L. Kempner

1. Beams--Vibration 2. Beams--Mathematical analysis

Card 2/2

TROITSKIY, V.A

AUTHOR: TROITSKIY, V.A. (Leningrad) 40-4-18/24

TITLE: On the Canonical Transformations of the Control Equations in the Case of Multiple Roots (O kanonicheskikh preobrazovaniyakh uravneniy teorii avtomaticheskogo regulirovaniya pri nalichii kratnykh korney).

PERIODICAL: Prikladnaya Mat.i Mekh., 1957, Vol.21, Nr 4, pp.574-577 (USSR)

ABSTRACT: Let the system

(1) $\dot{x} = bx + h\, f(\sigma)$, $\sigma = jx$

be given, where x and σ are n- and m-dimensional vectors, b is a quadratic $n \times n$ matrix, h and j are rectangular $(n \times m)$ and $(m \times n)$- matrices and $f(\sigma)$ is an m-dimensional vector. Let the matrix b possess multiple eigenvalues. With the aid of a nondegenerated linear transformation $x = cz$, $|c| \neq 0$, (1) transforms into

$$\dot{z} = c^{-1}bc\, z + c^{-1}h\, f(\sigma) \quad , \quad \sigma = jcz ,$$

where $c^{-1}bc$ is quasi-diagonal

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On the Canonical Transformations of the Control Equations in the Case of Multiple Roots 40-4-18/24

$$c^{-1}bc = J = \begin{Vmatrix} J_1 & 0 \dots & 0 \\ 0 & J_2 \dots & 0 \\ \hdotsfor{3} \\ 0 & 0 \dots & J_\tau \end{Vmatrix} , \quad J_i = \begin{Vmatrix} \lambda_i & 0 \dots & 0 \\ 1 & \lambda_i \dots & 0 \\ \hdotsfor{3} \\ 0 & 0 \dots & \lambda_i \end{Vmatrix}$$

As the canonical form of (1) the author denotes

$\dot{z} = Jz + a\,f(\sigma)$, $\sigma = \gamma z$, $a = c^{-1}h$, $\gamma = jc$

It is shown how to choose c .

As a second system the author considers

$$\dot{x} = bx + n\xi \ , \quad \dot{\xi} = f(\sigma) \ , \quad \sigma = jx + r\xi$$

(controls with auxiliary energy) where ξ is an m-dimensional vector and r an $m \times m$- matrix.

ASSOCIATION: Leningrad Polytechnical Institute (Leningradskiy politekhnicheskiy institut)

SUBMITTED: April 19, 1954

AVAILABLE: Library of Congress

CARD 2/2

SOV/112-59-2-3336

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, Nr 2, p 157 (USSR)

AUTHOR: Troitskiy, V. A.

TITLE: Self-Oscillations in Regulated Systems With Several Regulating Units (Ob avtokolebaniyakh v reguliruyemykh sistemakh s neskol'kimi reguliruyushchimi organami)

PERIODICAL: Tr. Leningr. politekhn. in-ta, 1958, Nr 192, pp 201-219

ABSTRACT: By the Poincaré small parameter method, periodic solutions of quasi-linear autonomous sets of differential equations are found. The equations describe the behavior of some automatic-control systems having several regulating units. Stability of the found periodic motions is investigated. From the author's summary.

Card 1/1

TROITSKIY, V.A.

Stability of sampling servosystems having two pulse elements.
Trudy LPI no.192:220-234 '58. (MIRA 11:6)
(Automatic control)

TROITSKIY, V.A.

Matrix methods for calculating vibrations of beam systems. Trudy LPI no.210:220-255 '60. (MIRA 13:11)
(Girders--Vibration)

26129
S/040/61/025/004/008/021
D274/D306

16.4900

AUTHOR: Troitskiy, V.A. (Leningrad)

TITLE: The Meyer-Bolz problem of variational calculus, and the theory of optimum systems

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 4, 1961, 668-679

TEXT: The application of the Meyer-Bolz problem to the solution of optimization problems is considered. The problem is formulated as follows. A system of n differential equations is given

$$g_s = x_s - f_s(x_1, \dots, x_n, u_1, \dots u_m, t) = 0 \qquad (s = 1, \dots, n) \qquad (1.1)$$

and the relations

$$\psi_k = \psi_k (u_1, \dots, u_m, t) = 0 \qquad (k = 1, \dots, r \quad m) \qquad (1.2)$$

which describe a dynamic system; u are the control variables. At the initial moment t_o and at the moment T, the system is described by

$$x_s(t_o) = x_s^o \qquad (s = 1, \dots, n) \qquad (1.3)$$

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and $\Phi_l = \Phi_l [x_1(T),\ldots,x_n(T),T] = 0 \qquad (l = 1,\ldots,p \leqslant n) \qquad (1.4)$
respectively. The optimization problem: To determine the functions $x_s(t)$ $(s = 1,\ldots,n)$ which satisfy Eq. (1.1) and (1.3), and the control variables u_k (connected by (1.2)), so that if Eq. (1.4) is satisfied, the functional

$$J = J [x_1(T),\ldots,x_n(T),T] \qquad (1.5)$$

assumes a stationary value. Many optimization problems can be formulated in such a way; thereby the form of the functional J and condition (1.4) express the physical nature of the problem. The conditions are found for the stationarity of the functional J. The expression

$$I = J + \int_{t_0}^{T} \left\{ \sum_{s=1}^{n} \lambda_s(t) g_s - \sum_{k=1}^{r} \mu_k(t) \Psi_k \right\} dt + \sum_{l=1}^{p} \rho_l \Phi_l \qquad (2.1)$$

is set up, where $\lambda_s(t)$, $\mu_k(t)$ and ρ_l are Lagrange multipliers which have to be determined. The variations ΔJ and ΔI are formed. Enough relationships are found for the sought-for quantities, so that the extremum problem can be completely solved. By considering

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The Meyer-Bolz problem...

the Lagrange function

$$L = \sum_{s=1}^{n} \lambda_s g_s - \sum_{k=1}^{r} \mu_k \psi_k \qquad (3.1)$$

some of the obtained relationships can be written as the ordinary Euler equations

$$\frac{d}{dt}\frac{\partial L}{\partial \dot{x}_s} - \frac{L}{x_s} = 0 \quad (s = 1,\ldots,n), \quad \frac{\partial L}{\partial u_k} = 0 \ (k - 1,\ldots m) \qquad (3.2)$$

the obtained Erdmann-Weierstrass conditions can also be differently formulated. Further, a somewhat unusual matrix form of the obtained relationships is given. Thus, e.g. the initial conditions are given by

$$x\ (t_0) = x^0 \qquad (3.17)$$

here x^0 denotes the column-matrix of the initial values x_s^0. On linear differential equations, the optimization is considered of the system:

$$\dot{x}_s = \sum_{\alpha=1}^{n} b_{s\alpha} x_\alpha + \sum_{\beta=1}^{m'} h_{s\beta} u_\beta \qquad (4.1)$$

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The Meyer-Bolz problem...

with the condition

$$U_\beta^{(1)} \leqslant u_\beta \leqslant U_\beta^{(2)} \qquad (\beta = 1,\ldots,m') \qquad (4.2)$$

Additional relationships are set up, so that the problem is formulated in a way similar to that at the beginning of the article. Two of the relationships are written in matrix form, and the equations are solved. It is found that optimum regimes in linear systems have the following important property: the control variables $u_k(t)$ assume extremal values only:

$$u_k = U_k^{(1)}, \text{ or } u_k = U_k^{(2)} \qquad (k = 1,\ldots,m') \qquad (4.18)$$

The foregoing results make it possible to prove the n-interval theorem as noted in A.A. Fel'dbaum (Ref. 10: Vychislitel'nyye ustroystva v avtomaticheskikh sistemakh (Computers in Automatic Systems), Fizmatgiz, M., 1959). It is noted that the obtained results apply to any form of functional J; some of the results can apparently be extended to non-linear systems. There are 1 figure and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: A. Miele, General

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The Meyer-Bolz problem...

Variational Theory of the Flight Paths of Rocket Powered Aircraft, Missiles and Satellite Carriers. Astronaut. acta. 1958, 4, No. 4, 264-288.

SUBMITTED: March 16, 1961

Card 5/5

BUTENIN, Nikolay Vasil'yevich; PONYRKO, S.A., nauchnyy red.; MERKIN, D.R., doktor fiz.-matem.nauk, retsenzent; TROITSKIY, V.A., kand.fiz.-matem.nauk, retsenzent; SHAYKEVICH, I.A., red.; TSAL, R.K., tekhn.red.

[Fundamentals of the theory of nonlinear vibrations] Elementy teorii nelineinykh kolebanii. Leningrad, Sudpromgiz, 1962. 193 p. (MIRA 15:5)

(Vibration)

32689

S/040/62/026/001/004/023
D237/D304

13.2000
26.2195

AUTHOR: Troitskiy, V.A. (Leningrad)

TITLE: On variational problems of optimization of control processes

PERIODICAL: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk. Prikladnaya matematika i mekhanika, v. 26, no. 1, 1962, 29-38

TEXT: The Mayer-Boltz variational problem modified by introducing optimizing conditions is considered. It is assumed that the functions used in the problem fulfil the usual variational requirements and only the minimizing case is considered as the maximum can be obtained from it either by changing the sign of the functional J which is optimized, or by inversion of inequalities occurring in the proof. The author derives the condition for J to be stationary, utilizing the method described in his earlier work (Ref. 14: PMM, 1961, 25, 4, 668-679) and constructs the sufficient and necessary Weierstrass condition for J to be minimum by means of the Weierstrass function E known from the theory, and notes that

X

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32689

On variational problems ... S/040/62/026/001/004/023
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in the present problem, the Weierstrass' condition and the stability condition can be formulated analogically to L.S. Pontryagin's (Ref. 6: Usp. matem. nauk, 1959, v. 14, no. 1 (85), 3-20) maximum principle. The two remaining necessary conditions for J to be a minimum are those of Klebsh [Abstracter's note: Transliteration] and Jacobi, and their derivation is given with the concluding remark that in many cases it is sufficient to investigate the stationary and Weierstrass conditions. The paper is supplemented by derivation of the necessary Weierstrass condition. There are 15 references: 13 Soviet-bloc and 2 non-Soviet-bloc. The two references to the English-language publications read as follows: A. Miele, Astronaut Acta, (1958), 4, no. 4, 264-288; G. Leitmann, Journal of aero space sciences, (1959) 9, 586-591.

SUBMITTED: October 23, 1961

Card 2/2

36032
S/040/62/026/002/004/025
D299/D301

16,4900

AUTHOR: Troitskiy, V.A. (Leningrad)

TITLE: Variational optimization-problems for systems of equations with discontinuous right-hand sides

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 2, 1962, 233- 246

TEXT: The necessary conditions are given which minimize the functional J. These conditions are applied to the optimization of the operating conditions of vibrotransportation. The first-order system of differential equations

$$g_s^{\pm} = \dot{x}_s - f_s^{\pm}(x_1, \ldots, x_n, u_1, \ldots, u_m, t) = 0 \qquad (1.1)$$

is considered, and the system of r equations

$$\Psi_k^{\pm} = \Psi_k^{\pm}(u_1, \ldots, u_m, t) = 0 \quad (k = 1, \ldots, r < m). \qquad (1.2)$$

$$\vartheta = \vartheta(x_1, \ldots, x_n, t) = 0 \qquad (1.4)$$

Equation

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Variational optimization-problems ...

defines the surface S which divides the region R into two parts: R^- and R^+. The optimization problem is formulated as follows: To find, among the functions $x_s(t)$, $u_k(t)$ which satisfy (in the regions R^- and R^+) the equations (1.1) and (1.2), those which minimize the functional

$$J = g[x_1(t_0), \dots, x_n(t_0), t_0, x_1(T), \dots, x_n(T), T] + \int_{t_0}^{T} f_0^{\pm}(x_1, \dots, x_n, u_1, \dots, u_m, t)dt. \quad (1.5)$$

The stationarity conditions for J are obtained in the form of several equations, analogous to the ordinary Erdmann-Weierstrass conditions. The assumptions are stated with respect to the number of discontinuity-points of the right-hand sides of the equations of motion. It was found that the moments of time $t = t'$ and $t = t'^*$, corresponding to the discontinuity-points of the right-hand sides, differ substantially from the moment $t = t^*$ of discontinuity of the controller $u_k(t)$. After constructing the solution which satisfies

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Variational optimization-problems ... S/040/62/026/002/004/025
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the stationarity condition, it is necessary to show that this solution minimizes the functional J. Owing to the discontinuity of the solution, the minimum is verified by means of Weierstrass' condition for a strong minimum of the functional J. [Abstractor's note: This condition is formulated in an appendix to the article; it is obtained by means of Weierstrass' E-function]. In the references it is shown that the optimization of the vibrotransportation process is considered. There are 4 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc, (in translation).

SUBMITTED: December 8, 1961

Card 3/3

38082
S/040/62/026/003/004/020
D407/D301

16,8000
13,2000

AUTHOR: Troitskiy, V.A. (Leningrad)

TITLE: Variational problems of control-process optimization in systems with restricted coordinates

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 3, 1962, 431 - 443

TEXT: A variational formulation is proposed for optimization problems for control systems, in which both the coordinates and control parameters are subjected to restrictions. In the majority of earlier works, only the control parameters were restricted. The coordinates are subjected to 2 types of restrictions: Type I - it is assumed that the region X* of allowed variations of the coordinates $x_1, \ldots, x_n$ is given by the inequality

$$\vartheta(x_1, \ldots, x_n) \leqslant 0. \quad (1.3)$$

Type II:

$$x_s, \leqslant 0. \quad (1.8)$$

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Variational problems of control-process..

The variational problem is formulated in the following general way: It is required to determine, among the coordinates $x_1, \ldots, x_n$ (which are contained within the closed region X*) and the controllers $u_1, \ldots, u_m$, which satisfy the system of equations

$$g_s = \dot{x}_s - f_s(x_1, \ldots, x_n, u_1, \ldots, u_m, t) = 0 \quad (s = 1, \ldots, n) \tag{2.1}$$

and the finite relationships

$$\Psi_k = \Psi_k(x_1, \ldots, x_n, u_1, \ldots, u_m, t) = 0 \quad (k = 1, \ldots, r) \tag{2.2}$$

and $\varphi_l = \varphi_l[x_1(t_0), \ldots, x_n(t_0), t_0, x_1(T), \ldots, x_n(T), T] = 0$

$$(l = 1, \ldots, p \leqslant 2n + 1), \tag{2.3}$$

those coordinates which minimize the functional

$$J = g[x_1(t_0), \ldots, x_n(t_0)\ t_0, x_1(T), \ldots, x_n(T), T] + \int_{t_0}^{T} f_0(x_1, \ldots, x_n, u_1, \ldots, u_m, t)dt \tag{2.4}$$

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Variational problems of control-process.. D407/D301

In this formulation, the optimization problem is equivalent to a variational problem of Mayer-Boltz type. The results of G.A. Bliss (Ref. 8: Lectures on Variational Calculus (Russian translation, IIL, 1950)) are used. The necessary conditions for the stationarity of the functional J are obtained, as well as Weierstrass's condition for a strong minimum of J. The functions which minimize J, are sought among the continuous coordinates $x_s(t)$ with piecewise-linear derivatives, and among piecewise-linear controllers $u_k(t)$. The necessary stationarity condition for the functional J is obtained by setting equal to zero the first variation of the auxiliary functional I. The necessary Weierstrass condition for a strong minimum of J is given by the inequality $E \geqslant 0$, where E is Weierstrass's function. The above formulation of the problem (Eq. (2.1), (2.2), (2.3)) is equivalent to the general mathematical formulation of the synthesis problem of optimal systems. As an illustrative example, the optimization of the duration of the transition from a certain state of a control system to its equilibrium state, is considered. There are 2 figures. The most important English-language reference reads as follows: A. Miele General Variational Theory of the flight Paths of Rocket Powered Aircraft, Missiles, and Satellite Carriers. Astronaut.acta, 1958, no.4,

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Variational problems of control-process.. S/040/62/026/003/004/020
D407/D301

264 - 288.

SUBMITTED: February 6, 1962

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S/040/62/026/006/002/015
D234/D308

16,4900

AUTHOR: Troitskiy, V.A. (Leningrad)

TITLE: Variational problems of optimization of control processes with functionals depending on intermediate values of coordinates

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 6, 1962, 1003 - 1011

TEXT: The author considers the problem of finding a curve for which

$$J = g[x(t_o), t_o, x(t_1), t_1, \dots, x(t_{q+1}), t_{q+1}] + \int_{t_o}^{T} f_o(x, u, t)dt$$

has a minimum value, among curves satisfying

$$g_s = \dot{x}_s - f_s(x_1, \dots, x_n, u_1, \dots, u_m, t) = 0 \quad (s = 1, \dots, n) \qquad (1.1)$$

$$\psi_k = \psi_k(u_1, \dots, u_m, t) = 0 \quad (k = 1, \dots, r) \qquad (1.2)$$

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between T and t_o, for which at points $t = t_1$

$$\varphi_1[x(t_o),\ t_o,\ x(t_1),\ t_1,\ \ldots,\ x(t_q),\ t_q,\ x(T),\ T] = 0 \qquad (1.3)$$

applies. The result is that such a curve must satisfy

$$\dot{\lambda}_s + \frac{\partial H}{\partial x_s} = 0, \quad (s = 1, \ldots, n), \quad \frac{\partial H}{\partial u_k} = 0 \quad (k = 1, \ldots, m) \qquad (2.13)$$

the end conditions

$$\lambda_s(t_o) - \frac{\partial\varphi}{\partial x_s(t_o)} = 0, \quad \lambda_s(T) + \frac{\partial}{\partial x_s(T)} = 0 \quad (s = 1, \ldots, n) \qquad (2.14)$$

$$(H)_{t_o} + \frac{\partial\varphi}{\partial t_o} = 0, \quad (H)_T - \frac{\partial\varphi}{\partial T} = 0 \qquad (2.15)$$

and Erdmann-Weierstrass conditions

$$\lambda_s^-(t_1) - \lambda_s^+(t_1) + \frac{\partial\varphi}{\partial x_s(t_1)} = 0 \ (s = 1, \ldots, n) \quad \frac{\partial\varphi}{\partial t_1} - (H^-)_{t_1} + (H^+)_{t_1} = 0 \qquad (2.16)$$

Variational problems of ... S/040/62/026/006/002/015
D234/D308

The necessary Weierstrass' condition is satisfied by every normal curve for which J is minimum, the notion of normality being generalized by the author. The results are applied to a problem of accumulation of periodical disturbances in a linear system with one degree of freedom. The author thanks A.I. Lur'ye.

SUBMITTED: September 10, 1962

B

Card 3/3

S/020/63/149/002/005/028
B112/B180

AUTHOR: Troitskiy, V. A.

TITLE: Variational problems bearing on the improvement of control processes and involving functionals which depend on intermediate coordinate values

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 2, 1963, 268-271

TEXT: A system of differential equations

$$g_s = \dot{x}_s - f_s(x_1,\dots,x_n,u_1,\dots,u_m,t) = 0 \qquad (1)$$

($s = 1,\dots,n$) with the finite relations

$$\phi_k = \phi_k(u_1,\dots,u_m,t) = 0 \qquad (2)$$

($k = 1,\dots,r < m$) is considered. The problem is to minimize the functional

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$$J = g\,[x(t_0),\ t_0,\ x(t_1),\ t_1, \ldots, x(t_q),\ t_q,\ x(t_{q+1}),\ t_{q+1}] + \int_{t_0}^{t_{q+1}} f_0(x_1, \ldots, x_n,\ u_1, \ldots, u_m,\ t)\,dt \qquad (4)$$

under the additional restrictions

$$\varphi_l = \varphi_l\,[x(t_0),\ t_0,\ x(t_1),\ t_1, \ldots, x(t_q),\ t_q,\ x(t_{q+1}),\ t_{q+1}] = 0,$$

$$l = 1, \ldots, p \leqslant (q+2)(n+1) - 1. \qquad (5)$$

The condition of Weierstrass leads to the following inequality to be fulfilled by

$$H_\lambda = \sum_{s=0}^{n} \lambda_s f_s:$$

$$H_\lambda(x, u, \lambda, t) \geqslant H_\lambda(x, U, \lambda, t). \qquad (16)$$

This result is known from problems of optimizing control processes.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

S/020/63/149/002/005/028
B112/B180

Variational problems bearing on the ...

PRESENTED: October 16, 1962, by V. I. Smirnov, Academician

SUBMITTED: October 6, 1962

Card 3/3

TROITSKIY, V.A.

Arctic expeditions of the Dickson Harbor hydrographers. Let. Sev. 4:80-83 '64. (MIRA 18:3)

1. Diksonskaya gidrograficheskaya baza.

ACC NR: AM5026858 Monograph UR/

Troitskiy, Vladimir Aleksandrovich

Ferroelectrics in electrical machinery design (Magnitodielektriki v konstruktsii elektricheskikh mashin) Tashkent, Izd-vo "Nauka", 1965. 208 p. illus., biblio. (At head of title: Uzbekskiy institut energetiki i avtomatiki Gosudarstvennogo proizvodstvennogo komiteta po energetike i elektrifikatsii SSSR) Added t. p. in Uzbek. 1800 copies printed.

TOPIC TAGS: ferroelectric material, ferroelectricity, electric motor, electric generator, circuit design metal powder

PURPOSE AND COVERAGE: This book is intended for a wide variety of engineers and electricians concerned with the design and manufacture of electric machinery. It may also be useful to specialists dealing with ferromagnetic materials in which powdered magnetic fillers (ferroelectric powders) are used. The book discusses the possibility of using ferroelectric powders which change the technological processes of magnetic cores and increase their permeability. A. M. Dadazhanov and M. Kh. Dzhalilov participated in the preparation of the manuscript. There are 114 references, of which 101 are Soviet and 13 are non-Soviet.

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ACC NR: AM5026858

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ACC NR: AM5026858

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ACC NR: AM5026858

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ACC NR: AM5026858

SUB CODE: 14 / SUBM DATE: 22Jan65 / ORIG REF: 101 / OTH REF: 013

Card 5/5

TROITSKIY, V.A.; KHAMUDKHANOV, M.Z.

Parameters of asynchronous machines using magnetodielectrics in their construction. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no. 1:5-15 '65 (MIRA 19:1)

1. Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki. Submitted March 31, 1964.

TROITSKIY, V.A., kand.tekhn.nauk

Transformers with magnetic switching of the turns of regulated windings. Elektrichestvo no.9:64-67 S '65. (MIRA 18:10)

1. Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki.

of small power nonsynchronous [illegible]
[illegible] (VMP) for fastening and protecting the windings of the machine are used

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756720002-1"

(Uzbek Scientific Research Institution of Power Engineering and Automation)

Card 3/3

TROITSKIY, Vladimir Aleksandrovich

Use of the arm end connections of the windings of electrical machines. Izv. vys. ucheb. zav.; elektromekh. 6 no.11:1192-1199 '63. (MIRA 17:4)

1. Starshiy inzhener instituta energetiki i avtomatiki AN Uzbekskoy SSR.

TROITSKIY, V.A. (Leningrad)

Optimization of the vibrotransport process. Prikl. mat. i mekh. 27 no.6:1117-1123 N-D '63. (MIRA 17:1)

26811
S/167/60/000/001/002/002
D224/D301

15.2420 only 3009

AUTHOR: Troitskiy, V. A.

TITLE: Magnetic paste in electrical machines

PERIODICAL: Akademiya nauk UzSSR. Seriya tekhnicheskikh nauk. Izvestiya, no. 1, 1960, 19 - 26

TEXT: The author describes the application of plastic pastes of resins mixed with various grades of iron powders, to constructing electric machines. When drying, these pastes transform into magnetic plastic materials, which could have magneto-dielectric and good isolating properties. They could be moisture and acid resistive and have various magnetic permeabilities depending on the method of preparing the material. The magnetic paste used in experiments carried out by the Laboratory of Automatic Electric Drive of the Institute of Energetics and Automation of the Academy of Sciences, UzSSR was made of the glue БФ-2 (BF-2) and of iron powders of various types. The magnetic characteristics of some pastes in

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Magnetic paste in electrical machines D224/D301

the dry state and also those of electrotechnical steel are given. The characteristic B = f(H) of the magnetic pastes is almost linear, i.e. they are difficult to saturate at a magnetic permeability much lower than that of steel materials. They are practically free from eddy current losses. Their magnetic permeability depends on the type of powder, the glue base, and in the case of filling, on the magnitude of pressure. The magnetization characteristic is shown of the stator of a small motor at Tashkent Electrorepair Plant and that of a motor made at the Laboratory. It is noticeable that the linear magnetization characteristic could be obtained in ordinary machines by increasing the size and weight of the machine. A single phase squirrel cage induction motor was assembled from the stator with the application of the paste and a normal rotor head, its weight lowered by 16 % at the same load moment as a normal induction motor. The winding was identical. The magnetic paste could be applied to fix winding on the iron which in this case could be stamped without slots. Then the sections of the former power have a smaller height and are distributed more evenly along

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the bore-diameter of the stator. This makes the machine nearer to the ideal as calculated, improves the curve of the magnetic field in the air gap, eliminates the pulsing losses, improves the efficiency, and the covering with the paste of the front parts of the windings increase the rated power. The use of magnetic pastes for machines up to 100 kW and 500 V could solve the problem of the magnetic wedge as a means of diminishing iron losses. Because of the considerable frequency, the pulsing losses of the magnetic field, which are proportional to the number of slots and the spread of the machine, are mainly located in a thin layer at the stator/rotor surfaces. They are estimated from the formula

$$P_{pulse.r(s)} = K\left(\frac{Z_{c(p)}\ n}{10000}\right)^{1.5}\left(\frac{B_0\ t_{c(p)}}{1000}\right)\ w/m^2 \qquad (1)$$

where $Z_{c(p)}$ - the number of stator (rotor) teeth, b_0 - the amplitude of the flux density in the gap, gauss; $t_{c(p)}$ - the stator (rotor) pitch. The surface losses with the open slots in the rotor in the synchronous and d.c. machines are considerable and are expecially large in the induction machines, where there are teeth both on stators and rotors with the small air gap; the eddy currents are calculated from the expression:

$$P_{pulse(st/rot)} \approx 0.14\left(\frac{Z_{p(c)}}{10000} \cdot \frac{B_{pulse\ s/r}}{1000}\right)^2 \cdot G_{zc(p)} 10^{-3} \text{kW}, (2)$$

where B_{pulse} - amplitude of the pulses in the mean cross-section of the tooth. The total iron losses in the stator and rotor, as determined from the open circuit run of induction machines, are determined from the sum

$P_c = P_{c.c} + P_{c.z} + P_{surface\ st} + P_{surface\ r} + P_{pulse\ st} + P_{pulse\ r}$,

where $P_{c.c}$ and $P_{c.z}$ - the losses in the yoke and stator teeth $P_{surf\ r}$ - surface losses in stator/rotor $P_{pulse\ st.}$ and $P_{pulse\ r}$ -

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D224/D301

Magnetic paste in electrical machines

pulse losses in stator/rotor teeth. Because of the low slip frequency on the rotor, the losses in the rotor are usually neglected. It is seen from Eqs. (1) and (2) that the surface and pulse losses depend on the shape of the teeth. Attempts were made to close the slot with some magnetic material and to eliminate the pulse losses. The author describes then an experimental closing of the slots in 4 different types of induction motors, two of which were in the service of Tashkhladokombinat for several months. The article also shows the comparative characteristics of an ordinary induction motor (A. 42-4.2,8 kW, 1420 rpm) with only the front parts of the winding covered with magnetic paste and a d.c. generator of the type ПН-45 (PN-45). These characteristics further show that the performance of a motor with the paste sense of the increase, increases its power although it is the same size. The author continuously remarks that there are still no grounds to state that the paste could be applied to the machines of medium size with the same result as with the small machines. But it was hinted that the use of the half closed slots and elastic section could be avoided.

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S/167/60/000/001/002/002

Magnetic paste in electrical machines D224/D301

The covering with the paste of the front parts of the winding should also find applications. The author finally mentions a case of covering the winding of a transformer with the paste. The paste was used with the addition of insulating varnish to cover the layers. The transformer's magnetic characteristics was then compared with those identical but without the paste. The magnetization curve of the former increased by 8 % which shows the increase of the inductance. The work was done under the supervision of M.Z. Khamadkhanov. There are 5 figures, 2 tables and 3 Soviet-bloc references.

ASSOCIATION: Institut energetiki i avtomatiki AN UzSSR (Institute of Energetics and Automation AS UzSSR)

SUBMITTED: September 9, 1959

Card 6/6

KHAMUDKHANOV, M.Z.; TROITSKIY, V.A.

Stepped power take-off from an asynchronous motor by producing a magnetic asymmetry. Izv.AN Uz.SSR Ser.tekh.nauk no.5:82-86 '60. (MIRA 14:9)

1. Institut energetiki i avtomatiki AN UzSSR.
(Electric motors, Induction)

TROITSKIY, V.A.

Some ralationships characterizing an electric machine with magnetodielectrics in its design. Izv.AN Uz.SSR.Ser.tekh.nauk no.4:3-14 '61. (MIRA 15:1)

1. Institut energetiki i avtomatiki AN UzSSR.
(Electric machinery)
(Dielectrics)

KHAUDKHANOV, M.Z.; TROITSKIY, V.A.

Use of magnetodielectrics in electric machine building. Izv. AN Uz.SSR Ser.tekh.nauk no.5:3-11 '61. (MIRA 14:11)

1. Institut energetiki i avtomatiki AN UzSSR.
(Electric machinery--Design and construction)
(Dielectrics)

KHAMUDKHANOV, M.Z.; TROITSKIY, V.A.

Designs of plane electric machines. Izv. AN Uz.SSR Ser.tekh.nauk no.5:78-81 '61. (MIRA 14:11)

1. Institut energetiki i avtomatiki AN UzSSR.
(Electric machinery--Design and construction)

KHAMUDKHANOV, Muzaffar Zakhidkhanovich, doktor tekhn.nauk, prof.; TROITSKIY, Vladimir Aleksandrovich

Use of magnetodielectrics in the design of electrical machines. Izv.vys.ucheb.zav.; elektromekh. 5 no.10:1175-1180 '62. (MIRA 15:11)

1. Rukovoditel' laboratorii avtomatizirovannogo elektroprivoda instituta energetiki i avtomatiki AN UzSSR (for Khamudkhanov).
2. Starshiy inzhener laboratorii avtomatizirovannogo elektroprivoda instituta energetiki i avtomatiki AN UzSSR (for Troitskiy).
(Magnetic materials) (Electric motors)

KHAMUDKHANOV, M. Z.; TROITSKIY, V. A.; USMANOV, S. Z.

Transformer regulating output voltage by means of a magnetic commutator. Izv. AN Uz.SSR. Ser. tekh. nauk 6 no.5:38-43 '62. (MIRA 15:10)

1. Institut energetiki i avtomatiki AN UzSSR.

(Electric transformers)

TROITSKIY, Vladimir Aleksandrovich; KHAMUDKHANOV, M.Z., otv. red.;
SOKOLOVA, A.A., red.

[Magnetodielectrics in electrical machinery design] Magnitodielektriki v konstruktsii elektricheskikh mashin. Tashkent, Izd-vo "Nauka" Uzbekskoi SSR, 1965. 208 p. (MIRA 18:7)

1. Chlen-korrespondent AN UzbekSSR (for Khamudkhanov).

DONDOSHANSKIY, V.K.; TROITSKIY, V.A., doktor fiz.-mat. nauk, retsenzent; MOSKVIN, D.S., kand. tekhn. nauk, red.

[Calculating vibrations of elastic systems with electronic computers] Raschety kolebanii uprugikh sistem na elektronnykh vychislitel'nykh mashinakh. Moskva, Mashinostroenie, 1965. 366 p. (MIRA 18:9)

L 4042-66 EWT(d)/FSS-2/EWT(m)/EWP(m)/FS(v)-3/EWP(f)/EWP(c)/EWA(d)/EPA(w)-2/T/EWT(1)/ EWA(m)-2/ETC(m)/EWA(c) IJP(c) TT/WW/GW

ACCESSION NR: AP5021308 UR/0040/65/029/004/0745/0750

AUTHOR: Troitskiy, V. A. (Leningrad)

63
B

TITLE: Optimization of the movement of a two-stage rocket

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 4, 1965, 745-750

TOPIC TAGS: two stage rocket, space mechanics, space propulsion, optimum trajectory, optimal rocket thrust, rocket propulsion, rocket motion equation

ABSTRACT: A study was made of the space problem of optimizing the movement of a two-stage rocket in a uniform parallel force field. The equations of motion are given as

$$v^{+\cdot} = \frac{c^+\beta^+}{M_0^+} e^+ - gk, \quad r^{+\cdot} = v^+, \quad M_0^{+\cdot} = -\beta^+, \quad e^+ \cdot e^+ = 1$$

$$v^{-\cdot} = \frac{c^-\beta^-}{M_0^-} e^- - gk, \quad r^{-\cdot} = v^-, \quad M_0^{-\cdot} = -\beta^-, \quad e^- \cdot e^- = 1;$$

where r is the radius vector, v - the velocity vector, M_0 - the rocket's mass, c - the efflux velocity, e - the unit vector in the direction of gravity, K - a unit vector in the force field direction, and g is gravitational acceleration. The plus sign refers to the first stage and the minus to the second. The first stage

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ACCESSION NR: AP5021308

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equation holds true for $M_0^+(t) > M_1$,

where M_1 is the rocket's mass at time $t = t_1$, the end of the first stage's work. The second stage motion satisfies the inequality

$$M^-(t) \leqslant M_1 - M_c,$$

where M_c is the "dry" mass of the first stage. The parameter β is constrained according to

$$\beta_1^\pm \leqslant \beta^\pm \leqslant \beta_2^\pm.$$

It is desired to find a minimal value of the functional

$$J = J[r(t_0), v(t_0), M(t_0), t_0, r(T), v(T), M(T), T]$$

among the continuous functions r(t), v(t), and M(t), and the continuous functions $\beta(t)$ and e(t) which satisfies the given equations and inequalities in the interval $t_0 \leq t \leq T$ and which satisfies the equations

$$\varphi_l[r(t_0), v(t_0), M(t_0), r(T), v(T), M(T), t_0, T] = 0 \quad (l = 1, \ldots, p < 15)$$

at the end points of the interval. The problem is restated in a form suggested by the author in "O variatsionnykh zadachakh optimizatsii protsessov upravleniya,"

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ACCESSION NR: AP5021308

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PMM, 1962, t. 26. vyp. 1, pp. 233-246. The restated problem lends itself to a convenient and concise statement of optimality conditions. The solution of the problem is demonstrated for the case where the radius and velocity vectors and the rocket mass are known at the beginning and end of the time interval. Optimal parameters for minimum expenditure of fuel in reaching a vertical coordinate value are found. Orig. art. has: 47 equations.

ASSOCIATION: none

SUBMITTED: 23Oct64 ENCL: 00 SUB CODE: GM, ME, MA

NO REF SOV: 005 OTHER: 001

Card 3/3 DP

TROITSKIY V.A.; KHAMUDKHANOV, M.Z.; DADAZHANOV, A.M.; ABDUSAMATOV, Kh.K.; BEREGOVSKIY, V.N.

Welding transformers with two means of control. Izv. AN UzSSR. Ser. tekh. nauk 8 no.6:41-47 '64. (MIRA 18:3)

1. Uzbekskiy nauchno-issledovatel'skiy institut energetiki i avtomatiki.

TROITSKIY, V.A., kand. tekhn. nauk

Methods for regulating welding transformers. Elektrotekhnika 36 no.8:43-45 Ag '64. (MIRA 17:9)

S/0000/63/000/000/0024/0036

ACCESSION NR: AT4039570

AUTHOR: Troitskiy, V. A.

TITLE: Transformers with magnetic switching as functional converters

SOURCE: AN UzSSR. Otdeleniye tekhnicheskikh nauk. Rezul'taty* nekotory*kh issledovaniy v oblasti energetiki, avtomatiki, mekhaniki i gornogo dela (Results of some investigations in the fields of power engineering, automatic control, mechanics, and mining engineering). Tashkent, Izd-vo AN UzSSR, 1963, 24-36

TOPIC TAGS: transformer, magnetic switch, magnetic switch transformer, converter, mechanical electrical converter, automation, air gap structure

ABSTRACT: The author discusses an earlier publication (V. A. Troitskiy. Transformatory* s magnitnoy kommutatsiyey, V sb. "Voprosy* energetiki, mekhaniki, avtomatiki i gornogo dela", Tashkent, AN UzSSR, 1962) in detail, noting that all the magnetic switching transformers proposed and described in that paper, and developed in the Laboratoriya avtomatizirovannogo elektroprivoda Instituta energetiki i avtomatiki AN UzSSR (Laboratory for Automated Electric Drive of the Institute of Energetics and Automation) can be used as functional converters for the conversion of mechanical displacements

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ACCESSION NR: AT4039570

into electrical values. The possible designs of such converters are discussed (see Figure 1 in the Enclosure), and it is pointed out that the variable output values in these devices may be the inductive reactance, impedance, current and voltage. First considered are converters only in terms of no-load running output voltage. The operational principle is explained and these devices are shown to possess great capabilities in the achievement of dependencies such as

$$\boxed{U_{2x} = U_{2m} \cdot f(x).} \quad (1)$$

while at the same time they are free of many of the defects of rotating transformers (possibility of eccentricity leading to errors due to air gap irregularity, the need for armature reaction compensation, and limited range of linear e.m.f. functions of the angle of rotation). The author determines the relationship between the distribution of the turns of the winding along the OX axis of these devices and the variation in the secondary no-load voltage f(x). The number and arrangement of windings in A, B, and AB devices are discussed and the universality of the different types is analyzed. It is noted that the decisive factors in the selection of the design variants of functional converters are accurary, universality and reliability in obtaining the necessary mathematical functions and that these criteria can be achieved even to the detriment of economic indices--something which is impermissible in the case of power transformers. Noting that each of the devices A and B

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ACCESSION NR: AT4039670

has its own peculiar errors and methods of eliminating them, the author considers the effect of the toothed structure of the air gap in transformers of type A on the degree of accurary with which function f(x) is fulfilled. The voltage induced in the turns located under the magnetic switch is determined. It is found that, unless the core is saturated, the e.m.f. induced in the grooves under the switch with uniform distribution of the turns is constant, if the grooves of opposite rods are displaced by $\frac{1}{2}$t. Under these conditions, there is no error due to the position of the switch. From the author's previous work it is known that constancy in the magnetizing current can be achieved by shifting the grooves of the opposite rods by $\frac{1}{2}$t, making the width of the switch a multiple of the whole number t, slanting the switch with respect to the grooves and closing the grooves. A diagram is provided showing the distribution of the windings with respect to the grooves and the secondary voltage as a function of the switch positions. The significant contribution of this study is that transformers with magnetic switching or transformers in which part of the windings are excluded from the circuit of the basic magnetic flow can in fact be used as functional converters. Such devices are capable of carrying out, in a single-element design, a far greater number of mathematical functions than known equipment of the rotating transformer class. The law established by the author for the distribution of the adjustable winding along the axis of displacement is expressed by the first derivative

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ACCESSION NR: AT4039570

of the reproduced transmission function. Orig. art. has: 3 figures and 21 formulas.

ASSOCIATION: Otdeleniye tekhnicheskikh nauk AN UzSSR (Department of Technical Sciences, AN UzSSR)

SUBMITTED: 16Sep63 DATE ACQ: 22Jun64 ENCL: 02

SUB CODE: EC, IE NO REF SOV: 005 OTHER: 000

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ENCLOSURE: 01

ACCESSION NR: AT4039570

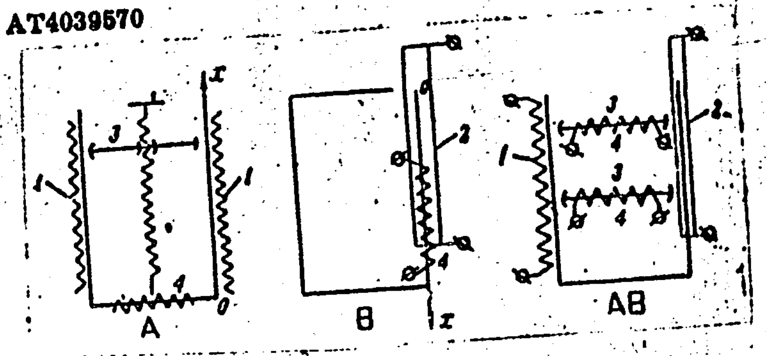

Fig. 1 - Design schemes of transformers with magnetic switching:
1 - adjustable winding located in grooves;
2 - adjustable winding removed from the basic magnetic flow circuit
3 - magnetic switch
4 - non-adjustable winding

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ACCESSION NR: AT4039570

ENCLOSURE: 02

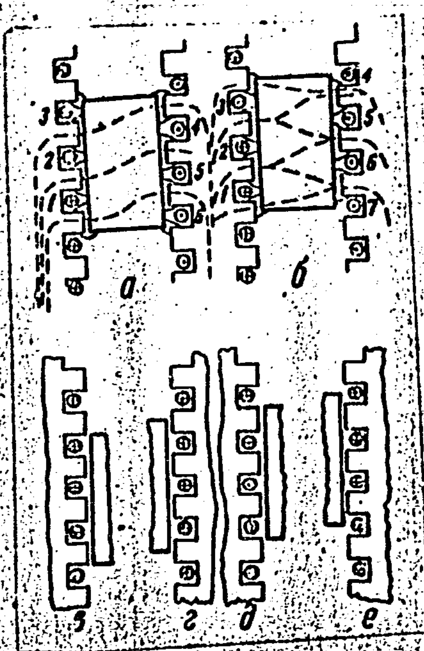

Fig. 2 - Calculated switch positions with respect to the grooves.

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TROITSKIY, V.A.; KHAMUDKHANOV, M.Z.; BEREGOVSKIY, V.I.; DZHALILOV, M.Kh.

Welding transformer with magnetic commutation of the turns of the control winding. Izv. AN Uz. SSR. Ser. tekh. nauk 8 no.1:7-15 '64. (MIRA 17:6)

1. Institut energetiki i avtomatiki Goskomiteta po energetike i elektrifikatsii SSSR.

SEMENOV, A.S.; TROITSKIY, V.A.

Vibrations of rod systems with circular junctions. Trudy LPI no.226:123-144 '63. (MIRA 16:9)
(Elastic rods and wires--Vibration)

TROITSKIY, V.A.

Sufficient conditions for variational problems in the optimization of automatic control processes. Trudy LPI no.226:44-61 '63. (MIRA 16:9)

(Automatic control)
(Calculus of variations)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001756720002-1"

TROITSKIY, V.A., kand.tekhn.nauk

Electromechanical functional converters. Elektrotekhnika 34 no.12:36-41 D '63. (MIRA 17:1)

TROITSKIY, V.A., kand.tekhn.nauk

Theoretical prerequisites for the creation of new types of electrical machinery systems. Izv. vys. ucheb. zav.; energ. 5 no.9:51-56 S '62. (MIRA 15:10)

1. Tashkentskiy institut inzhenerov zheleznodorozhnogo transporta. Predstavlena kafedroy elektricheskikh mashin i elektrooborudovaniya. (Electric machinery)

BEL'SKIY, V.I.; BORISOV, P.V.; VOLYNTSEV, V.A.; GOYKOLOV, Ye.F.; ZHOVNIROVSKIY, N.V.; ISSERS, A.Ye.; MAKAROV, N.S.; ROTNITSKIY, M.L.; TEBEN'KOV, B.P.; TROITSKIY, V.A.; CHERNOV, A.V., inzh.; AGURIN, A.P., nauchnyy red.; SOLODENNIKOV, L.D., nauchnyy red.; TOLKACHEV, P.I., nauchnyy red.; KHLUDEYEVA, Ye.O., red.izd-va; EL'KINA, E.M., tekhn.red.

[Handbook on special operations; construction of industrial furnaces] Spravochnik po spetsial'nym rabotam; sooruzhenie promyshlennykh pechei. Pod red. A.V.Chernova. Izd.3., ispr. i dop. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 694 p. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut "Teploproyekt.".
(Furnaces--Construction)

TROITSKIY V. A.

1. TROYTSKIY, V. A., SHCHUKIN, F. A.

2. USSR (600)

4. Spinning Machinery

7. Upper pressure rollers with adjustable ring. Tekst.prom. 12 no. 10, 1952.

9. Montnly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

TROITSKIY, V.A.

1. TROYTSKIY, V.A. (Eng.): PILIKOVSKIY, M. Ya

2. USSR (600)

4. Spinning Machinery

7. Silver condenser on LVS-305 silver machines.
Tekst. prom. 12. no. 11. 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

TROITSKIY, V.A.

TROITSKIY,V.A.; PILIKOVSKIY,M.Ya.; SHCHUKIN,F.A.

Testing the self-stopping device on the removable cylinder of "Vulkan" combers. Tekst.prom.15 no.8:48-49 Ag'55. (MLRA 8:11)
(Combing machines--Testing)

SHILOVA, S.A., TROITSKIY, V.B.

Some specific features of the attacks of bloodsucking insects upon birds [with summary in English]. Biul.MOIP.Otd. biol. 63 no.4:37-42 Jl-Ag '58 (MIRA 11:11)

(URAL MOUNTAIN REGION--DIPHTERA)
(PARASITES--PASSERES)

SHILOVA, S.A.; TROITSKIY, V.B.; MAL'KOV, G.B.; BEL'KOVICH, V.M. (Moscow)

Significance of the mobility of murine forest rodents for the distribution of the tick Ixodes persulcatus P.Sch. in spring and summer foci of encephalitis [with summary in English]. Zool. zhur. 37 no. 6:931-938 Je '58. (MIRA 11:7)

1. TSentral'nyy nauchno-issledovatel'skiy dezinfektsionnyy institut, Moskva.

(Mice as carriers of disease)
(Ticks)

MEDELYANOVSKIY, A.N.; TROITSKIY, V.B.

Changes in the excitability of the heart in the acute stage of burn disease. Biul. eksp. biol. i med. 59 no.6:32-35 Je '65. (MIRA 18:6)

1. Patofiziologicheskaya laboratoriya (zav. - deystvitel'nyy chlen AMN SSSR prof. N.A. Fedorov) TSentral'nogo ordena Lenina Instituta gematologii i perelivaniya krovi Ministerstva zdravookhraneniya SSSR.

PUSHKAR', L.N.; POSHEVAYA, V.P.; GERASIMOVA, L.I.; TROITSKIY, V.B.

Clinico-experimental study of the hydrolysate aminophaseol. Vest. khir. 70 no.6:26-29 Je'63 (MIRA 16:12)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - prof. A.A. Bagdasarov [deceased]). Adres avtorov: Moskva, Novo-Zykovskiy proyezd, 4, TSentral'nyy institut gematologii i perelivaniya krovi.

SHILOVA, S.A.; TROITSKIY, V.B.; DROZDOVA, Yu. V.

Penetration of ticks into villages located in endemic areas of tick-borne encephalitis. Med. paraz. i paraz. bol. 27 no.4:485-487 Jl-Ag '58. (MIRA 12:2)

1. Iz TSentral'nogo nauchno-issledovatel'skogo dezinfektsionnogo instituta.
(ENCEPHALITIS, EPIDEMIC,
Russian tick-borne, presence of ticks in focal (Rus))
(TICKS,
in focal areas of Russian tick-borne encephalitis (Rus))

TROITSKIY, V.B.; GORBUNOVA, N.A.

Changes in intersticial water metabolism in dogs following fatal thermal burns. Pat. fiziol. i eksp. terap. no.2:30-34 '64. (MIRA 17:9)

1. Patofiziologicheskaya laboratoriya (zav. - deystvitel'nyy chlen AMN SSSR prof. N.A.Fedorov) TSentral'nogo ordena Lenina instituta gematologii i perelivaniye krovi (dir. - dotsent A.Ye. Kiselev), Moskva.

FEDOROV, N.A.; GARFUNKEL', M.L.; GUREVICH, I.B.; TROITSKIY, V.B.

Effect of blood transfusion on heart function in experimental myocardial infarct. Kardiologiia no.1:35-42 '64. (MIRA 17:10)

1. Patofiziologicheskaya laboratoriya (zav.- deystvitel'nyy chlen AMN SSSR prof. N.A. Fedorova) i rentgenologicheskoye otdeleniye (zav.- doktor med. nauk I.B. Gurevich) TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir.- dotsent A.Ye. Kiselev), Moskva.

L 27613-66

ACC NR: AP6018475 SOURCE CODE: UR/0219/65/059/006/0032/0035

AUTHOR: Medelyanovskiy, A. N.; Troitskiy, V. B.

ORG: Pathophysiology Laboratory/headed by Active member AMN SSSR, Professor N. A. Fedorov/, Central Order of Lenin Institute of Hematology and Blood Transfusion, Ministry of Health SSSR (Patofiziologicheskaya laboratoriya Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi Ministerstva zdravookhraneniya SSSR)

TITLE: Changes in cardiac excitability during acute burn sickness

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 59, no. 6, 1965, 32-35

TOPIC TAGS: injury, dog, cardiovascular system, pathology

ABSTRACT: The purpose of the investigation was to study cyclic changes in the excitability of the cardiac ventricles in dogs during reaction to burn trauma. The most pronounced changes occurred during the first hour after the burn. Both ventricles were characterized by a shortening of the period of absolute refractoriness. After the first hour the refractory period of the right ventricle shortened while that of the left lengthened. Another pathological change in cardiac excitability and a predisposing factor to the onset of fibrillation and other severe arrythmias was the marked lowering of the thresholds following a steep rise in the period of relative refractoriness (the dip phase) and in the period that immediately followed that of

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relative refractoriness. The diastolic thresholds of excitability in shock were lowered for the right ventricle but were elevated for the left.

The data indicated the development of dissociation of the right and left ventricles in the course of burn shock as reflected in the opposite direction of changes in the values of the diastolic threshold and duration of the refractory period. The authors attribute this to impairment of the hemodynamics of the pulmonary and systemic circulations and resultant over-strain and alteration of the ventricles. This paper was presented by Active member, AMN SSSR, N. A. Fedorov. Orig. art. has: 1 figure and 2 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: 18Jan64 / ORIG REF: 006 / OTH REF: 011

Card 2/2 CC

SHILOVA, S.A.; TROITSKIY, V.B.; MAL'KOV, G.B.; BEL'KOVICH, V.M.

Significance of the mobility of murine forest rodents for the distribution of ticks in spring and summer foci of encephalitis. Biul. MOIP. Otd.biol. 62 no.5:117-118 S-O '57. (MIRA 10:11)
(TICKS AS CARRIERS OF DISEASE) (PARASITES--MICE)

TROITSKIY, V.D.

Brief geomorphological outline of the region of the Karymskiy volcano.
Trudy Kamch.vulk.sta. no.3:49-88 '47. (MLRA 6:5)

1. Kamchatskaya vulkanologicheskaya stantsiya. (Berezovaya region--Volcanoes)

VLADAVETS, V.I.; MOROZOV, A.I.; TROITSKIY, V.D.

Malyy Semyachik Sopka. Biul.Vulk.sta. no.15:19-27 '48. (MLRA 9:11)
(Malyy Semyachik Sopka)

ACCESSION NR: AP4018402 S/0120/64/000/001/0233/0235

AUTHOR: Fradkov, A. B.; Troitskiy, V. F.

TITLE: Hydrogen liquefier with a two-stage conversion for producing 98% para-hydrogen

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 233-235

TOPIC TAGS: para hydrogen, hydrogen liquefier, two stage conversion liquefier, hydrogen liquefaction, VOS-3 hydrogen liquefier, para hydrogen liquefier

ABSTRACT: A new para-hydrogen liquefier is described in which the cooling cycle is based on the Joule-Thomson effect in normal hydrogen. A cooling down to the 21K level is effected in a closed cycle with throttling normal hydrogen precooled by liquid nitrogen. The para-hydrogen producing line is separate from the principal cooling cycle,which makes the outfit multipurpose (liquefaction of deuterium or neon is possible). The ortho-para conversion of hydrogen is conducted at two temperature levels: (a) at the liquid-nitrogen

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temperature and (b) at the liquid-hydrogen temperature. Machine equipment and assemblies of the standard VOS-3 hydrogen liquefier have been used in the new outfit (see Enclosure 1). The new liquefier was tested with two compressors with 70 m^3/hr combined output at 110-125 atm. With 70K in the nitrogen bath (260 torr), the output was 16.5 lit/hr of normal hydrogen or 12.5 lit/hr of para-hydrogen; starting time, 25 min. After the first conversion stage, the gas contains 46% of para-H ; after the second stage, 95-98%. "Assembly and alignment of the liquefier were done by L. A. Bolotin, I. S. Bocharov, and A. S. Gribov." Orig. art. has: 2 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

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Card 2/2

FRADKOV, A.B.; TROITSKIY, V.F.

Two-stage conversion hydrogen liquefier for producing 98% para hydrogen. Prib. i tekh. eksp. 9 no.1:233-235 Ja-F '64. (MIRA 17:4)

1. Fizicheskiy institut AN SSSR.